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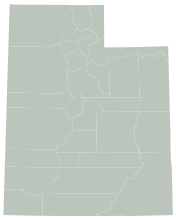
in this issue:

Occupational Projections Signal Steady Growth Through 2020



BY NATALIE TOROSYAN, ECONOMIST

Occupational projections from the Department of Workforce Services estimate the Utah economy will add 307,850 jobs between 2010 and 2020, growing total employment at a 2.2 percent compound annual rate to 1.6 million jobs. The projection period follows the Great Recession, a period characterized by declining employment in Utah.

Average annual employment between 1990 and 2010 grew at a rate of 2.7 percent and before the employment decline of 2008, annual employment grew by 3.3 percent. From the pre-recession employment peak to the lowest point, over 70,000 jobs were lost, or one out of every 20. The majority of losses were in the manufacturing and construction industries. Employment growth which was slowed by the recession, has since accelerated and by 2020, net job losses from the recession are expected to be fully recovered. Almost 20 percent of employment added between 2010 and 2020 will be a recovery of jobs that were lost in the recession and the remaining share will be growth beyond recovery.

Occupational projections estimate the volume of future employment, which informs annual job openings by occupation. Job openings are derived from growth in the number of new jobs added due to industry expansion and replacement needs. Replacement needs are created when workers permanently leave an occupation for a variety of reasons, including career change, promotion, retirement or exiting from the labor force. Growth and replacement openings will each make up about half of the forecasted total openings between 2010 and 2020. All major occupational groups are expected to add jobs openings, though growth in farming, fishing and forestry occupations will be unremarkable and unable to prevent employment in the occupation from contracting.

Occupations in Demand

Occupational projections are often quantified in terms of numeric change and percent change in the number of annual job openings. The occupations with the largest numeric increase are expected to add the largest absolute number of jobs, while occupations with the highest percent change will add the largest number of jobs relative to base employment levels. Combining both measures, along with the occupation's base year employment, describes the occupation's outlook. There are 61, 040 annual openings forecasted statewide, with the most annual openings from the retail salespersons occupation. the fastest growing occupation, on the other hand, is the biomedical engineers occupation with a 10.5 percent forecasted growth rate.

Occupational Projections

Total annual openings:..... 61,040

Most annual openings:

Retail Salespersons 2,180

Median wage for all occupations.....$37,600

Fastest growing (in percent):

Biomedical Engineers 10.5

Fastest declining (in percent):

Postal Service Mail Sorters, Processors, and Processing Machine Operators ..... - 3.3

Highest paying (median):

Family/ General Practitioners.....$178,700

Largest Numeric Increases

The largest numeric increases are common in occupations that already employ large numbers of workers. The ten occupations with the greatest numeric increases (Figure 1) are expected to add over one-fifth of annual projected openings and will make up one-fifth of total employment in 2020. Half of these occupations expect more openings from replacement than growth, indicating that most of the job opportunities will result from workers leaving the occupation, not because of expansion.

Openings from replacements are the greatest share of all openings for waiters and waitresses and cashiers. These occupations will encounter more openings from vacancies created by workers who leave. The reverse is true for registered nurses, an occupation that will attribute most of its openings to growth.

The top ten occupations in demand by numeric growth carry a median annual wage of $27,040, which is about $5,000 lower than the median for all occupations. All top increasing occupations are associated with entry-level education of high school diploma or lower, except the registered nurses occupation, which typically employs entrants with at least an associate degree.

While their expected growth is large in terms of number of jobs, these occupations do not necessarily have fast projected rates of growth because the size of their increase is relatively small compared to their substantial employment base.

Largest Percent Change

Percent change expresses the rate of job growth or decline during the projection period. Whereas the occupations with the largest numeric change are typically large

Figure 1: Occupations with Largest Numeric Increases by Source

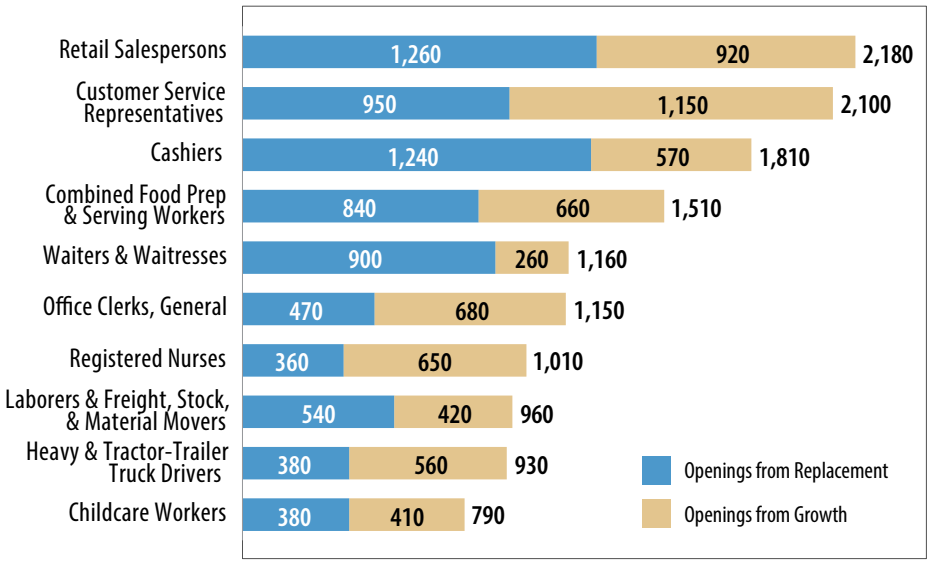
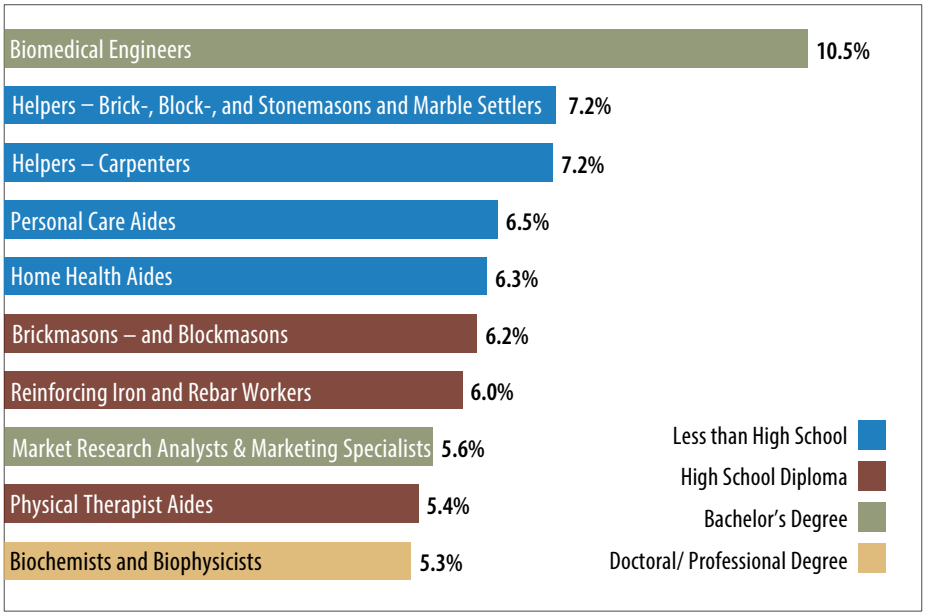


Figure 2: Fastest Growing Occupations by Entry Level Education



in the base year, percent change controls for occupational size. Occupations with the largest change relative to base employment size can often be those with few numbers of workers. Thus, high rates of growth do not always mean many new jobs. In fact, the ten fastest growing occupations will make up only 1.7 percent of total annual openings. Whereas the average base employment for the occupations with largest numeric change is 24,590, the average base employment for occupations with largest percent change is merely 1,260.

Fastest-Growing Occupations

Four of the ten fastest-growing occupations typically employ entry-level workers with education equivalent to a high school diploma or less. Despite relatively low education standards, fast-growing occupations will tend to pay wages that are higher than the median for all occupations. The ten fastest-growing occupations pay a median annual wage of $38,880.

Occupational Groups

Occupations are categorized into 22 major occupational groups. Within the major categories are minor groups and specific occupations. The fastest growing major occupational groups in Utah through 2020 are forecasted to be healthcare support occupations and construction and extraction occupations. These two major occupational groups are analyzed below, including corresponding occupations with noteworthy growth rates and numeric changes. Together, these two groups will add close to 36,000 job opportunities.

Healthcare Support Occupations

Total number of jobs added: 10,620

Annual growth rate (in percent) 3.1

Most new jobs:

Nursing Aides, Orderlies, Attendants... 2,950

Fastest growing (in percent):

Home Health Aides..... 6.3

Slowest growing (in percent):

Veterinary Assistants and Laboratory Animal Caretakers..... 1.1

Highest paying (median):

Physical Therapist Assistants $41,800

Construction and Extraction Occupations

Total number of jobs added: 24,990

Annual growth rate (in percent) 3.0

Most new jobs:

Construction Laborers..... 4,350

Fastest growing (in percent):

Helpers; Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters 7.2

Slowest growing (in percent):

Explosives Workers, Ordinance Handling Experts, and Blasters 1.0

Highest paying (median):

Boilermakers $61,152

Other major occupational groups with relatively high growth rates are community and social service occupations, personal care and service occupations and healthcare practitioners and technical occupations.

Occupations by Wages

The major occupational groups that pay the highest wages are management occupations,

Figure 3: Highest and Lowest Paying Major Occupational Groups

Major Occupation Group	Median Wage	2010 Employment Estimate	2020 Employment Projection	Compound Annual Growth Rate	Annual Openings
Highest-Paying					
Management	$80,640	68,800	80,310	1.6%	2,580
Architecture and Engineering	$67,870	23,690	27,900	1.6%	960
Computer and Mathematical	$66,060	34,080	44,570	2.7%	1,710
Legal	$62,960	9,250	11,110	1.8%	350
Healthcare Practitioners and Technical	$56,780	60,720	80,070	2.8%	3,150
Business and Financial Operations	$55,680	60,040	78,540	2.7%	3,080
Life, Physical, and Social Science	$50,670	11,680	14,760	2.4%	650
Lowest-Paying					
Office and Administrative Support	$28,350	218,830	267,440	2.0%	9,780
Sales and Related	$24,590	141,300	172,200	2.0%	7,330
Healthcare Support	$23,820	29,980	40,600	3.1%	1,510
Farming, Fishing, and Forestry	$22,590	12,110	12,070	-0.0%	370
Building and Grounds Cleaning and Maintenance	$20,470	44,920	55,730	2.2%	1,880
Personal Care and Service	$19,950	41,450	54,810	2.8%	2,510
Food Preparation and Serving Related	$18,700	90,660	106,320	1.6%	4,710

Occupational Projections

architecture and engineering occupations and computer and mathematical occupations. The median annual wage for management occupations is $80,640 and some of the occupations and corresponding annual median wages in this group include:

Chief Executives $123,970

Computer and Information Systems Managers $107,330

Architectural/ Engineering Managers $107,120

Marketing Managers $102,340

Financial Managers $93,600

The median annual wage for architecture and engineering occupation is $67,870, which includes the following high-paying occupations:

Petroleum Engineers $97,760

Aerospace Engineers $90,900

Chemical Engineers $87,570

Electronics Engineers (Except Computer) $84,450

Electrical Engineers $83,410

The lowest wages paid for occupations are in Food preparation and serving related occupations. occupations and annual median wages clustered in this occupational group include:

Combined Food Preparation and Serving Workers $17,680

Dishwashers $17,680

Fast Food Cooks $18,100

Hosts and Hostesses in Restaurant, Lounge, and Coffee Shop $18,100

Counter Attendants in Cafeteria, Food Concession, and Coffee Shop $18,100

Occupations by Entry-Level Education

The education category defines the level of education of a typical entrant to the occupation. Entry into over 70 percent of openings through 2020 will be associated with educational attainment of a high school diploma or less. Expectedly, these openings are for occupations that pay the lowest wages. Figure 4 demonstrates the wage premium that is paid for higher levels of educational attainment, as each marginal level is associated with higher wages. While occupations requiring entry-level master's, doctoral or professional degrees make up only 4 percent of annual job openings, on average they pay almost double the median wage for all occupations.

Besides contributing to a wage premium, increased levels of educational attainment are also associated with higher growth rates. Even though the typical entry-level education for most of the expected annual openings is a high school diploma or less, these occupations will grow slowly and will not keep up with the average growth rate for occupations. The highest rates of growth will likely be for occupations whose typical education level for entry is a master's, doctoral degree or professional degree.

Compare to National Projections

How do Utah's occupational projections compare to the nation's outlook? The state's forecasted growth rate for jobs, 2.2 percent, is considerably faster than the nation's 1.3 percent. Figure 5 displays the compound annual growth rates for both the state and the nation for each major occupational group, sorted by the nation's ranking. Utah has more major occupational groups that expect relatively fast growth rates of 2.5 percent or higher. Despite the varying projected rates of growth and their orders of rank, the top five occupational groups are the same for both geographies. Four of the top five fastest-growing major occupational groups have to do with individual wellbeing and healthcare. The importance of these fields is due to a aging populace which will need these services disproportionately more than other age groups, along with a growing population.

Summary

The 2010 to 2020 occupational projections indicate sufficient employment growth levels to fully recover the number of jobs lost during the recession. Job opportunities are expected to be equally sourced from both growth and replacement needs, with the majority of openings representing jobs which typically hire new entrants with percent annual rate of growth signals a better outlook than the nation's 1.3 percent.

Figure 4: Annual Growth Rate and Median Wage by Entry Level Education

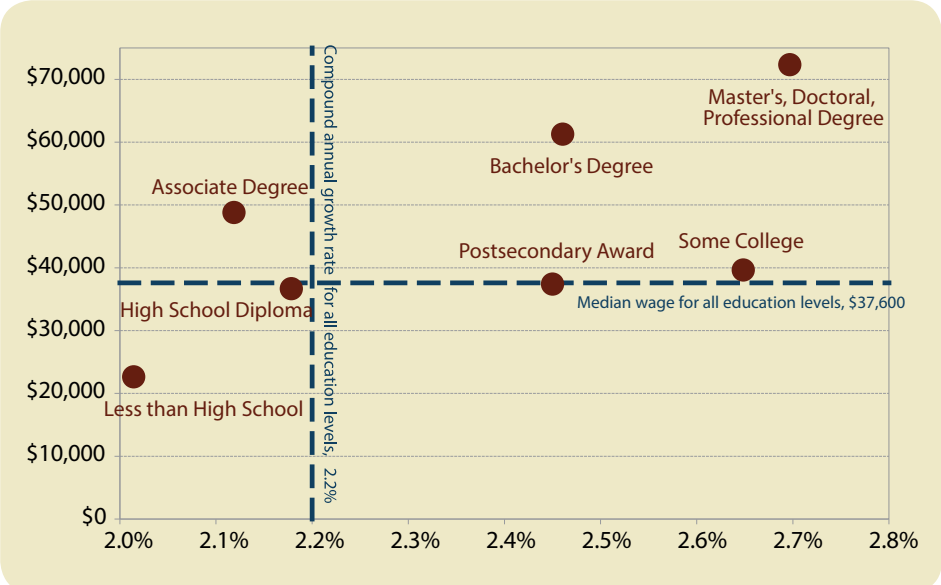
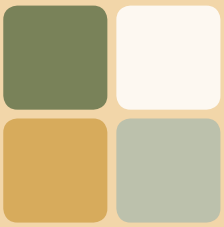


Figure 5: United States and Utah Growth Rates and Median Wages

Major Occupational Group	U.S. Compound Annual Growth Rate	U.S. Rank	Utah Compound Annual Growth Rate	Utah Rank	U.S. Median Wage	Utah Median Wage
Healthcare Support	3.0%	1	3.1%	1	$25,140	$23,820
Personal Care and Service	2.4%	2	2.8%	4	$20,730	$19,950
Healthcare Practitioners and Technical	2.3%	3	2.8%	5	$59,570	$56,780
Community and Social Service	2.2%	4	2.9%	3	$39,880	$34,690
Construction and Extraction	2.0%	5	3.0%	2	$39,820	$37,860
Computer and Mathematical	2.0%	6	2.7%	7	$75,080	$66,050
Business and Financial Operations	1.6%	7	2.7%	6	$61,700	$55,670
Life, Physical, Social Science	1.5%	8	2.4%	9	$59,330	$50,670
Education, Training, and Library	1.4%	9	2.4%	8	$46,060	$34,150
Transportation and Material Moving	1.4%	10	2.2%	10	$28,760	$31,210
Installation, Maintenance, and Repair	1.4%	11	2.1%	13	$40,600	$42,070
Arts, Design, Entertainment, Sports, and Media	1.2%	12	2.1%	12	$43,640	$37,580
Sales and Related	1.2%	13	2.0%	15	$24,840	$24,580
Building and Grounds Cleaning and Maintenance	1.1%	14	2.2%	11	$22,620	$20,460
Protective Service	1.1%	15	1.9%	16	$36,740	$34,330
Legal	1.0%	16	1.8%	17	$75,470	$62,960
Architectural and Engineering	1.0%	17	1.6%	19	$72,070	$50,670
Office and Administrative Support	1.0%	18	2.0%	14	$31,250	$28,350
Food Preparation and Serving Related	0.9%	19	1.6%	20	$18,900	$18,700
Management	0.7%	20	1.6%	21	$92,880	$80,650
Production	0.4%	21	1.7%	18	$30,670	$30,390
Farming, Fishing, and Forestry	-0.2%	22	-0.0%	22	$19,460	$22,590

Source: Utah Department of Workforce Services, U.S. Bureau of Labor Statistics



Utah Could Experience Above Average Employment Growth

BY MARK KNOLD, SUPERVISING ECONOMIST

The Utah economy is expanding, once again growing near its long-term average. Demographic factors have accumulated over the past five years giving reason to believe the Utah economy should soon grow above average.

The Great Recession created an imbalance as labor force growth outpaced employment growth. However, economic imbalances have a way of self-correcting. It is almost by necessity then that Utah should see above average employment growth in its near future as employment will catch up with labor force growth.

Utah's comprehensive second quarter 2013 employment data are now assembled and show that Utah continues to grow jobs at or slightly above its long-term average of 3.1 percent. For April, May and June, Utah's year-over employment growth rates are 3.5, 3.2, and 3.0 percent respectively. Most other states are not currently performing near their long-term average, so Utah is ahead of the game. From that level of growth, it is not a long reach to 4.0-percent and higher employment growth range.

Job counts take time to accumulate and therefore lag behind the current numbers. Four times a year, Utah employers report their job counts into the state's

Utah Could Experience... Continued

unemployment insurance program and processing the information creates delays. In the interim, the monthly job and unemployment reports released by the Department are sampled estimates of what those counts might be. The tangible performance is measured later when the unemployment insurance program data are accumulated. For second quarter 2013, the actual performance of the Utah economy was slightly better than the monthly estimates had anticipated. This has been a consistent pattern over the past year.

Utah's current job count is higher than it was before the Great Recession. Roughly only a third of all states can say their job counts are higher now than before the Great Recession. Despite this accomplishment, Utah's total job count is only 30,000 above the Great Recession's onset, is less than one average year of Utah job creation across a five-year span. This spotlights a potential positive. When the population base has grown for five years while the employment count has grown by only one, an imbalance of pent-up employment demand arises, which generally finds a way to break forth. Eventually, job growth will begin to outpace population growth, resulting in advanced economic activity. The Utah economy has the potential for strong employment growth sometime in the near future.

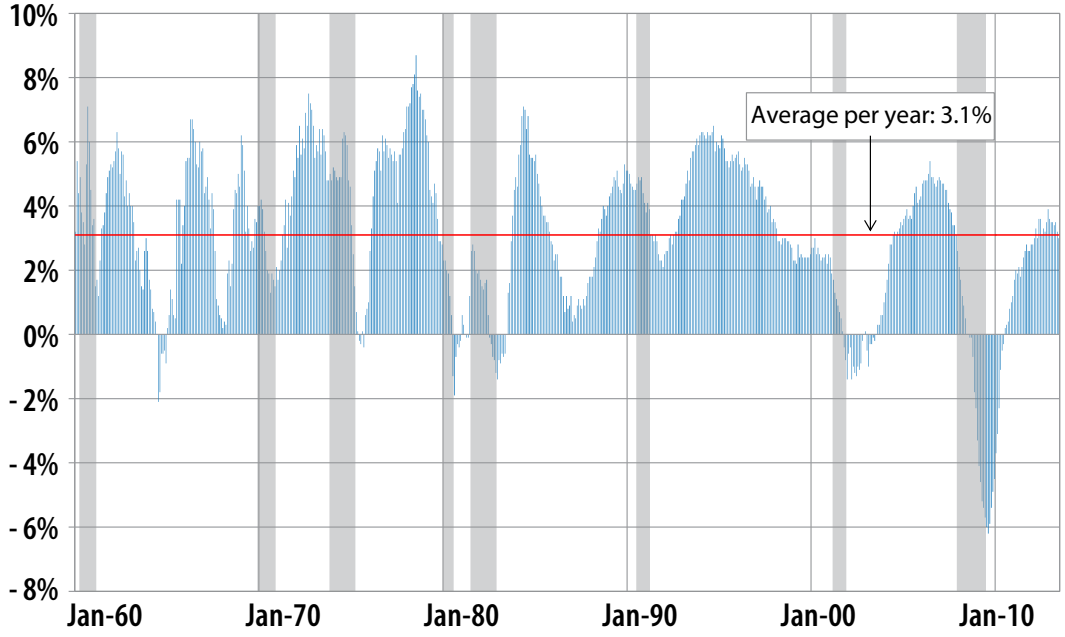
So when will this happen? That can be challenging to predict. The straightforward part is seeing forces acting upon the economy that make it ebb and flow. What is difficult is gauging the timing of when those ebb and flows occur. Pressures build and when it appears they might break anytime, it could happen years later.

This unpredictably can be influenced by factors, such as the state of the national economy. The current lethargic pace of the United States economic recovery acts as a drag on states with faster growth. The federal government sequestration had a slowing impact upon Utah, evidenced in those moderating growth rates from April through June. The federal government shutdown and budget issues are expected to have further slowed job creation in the third quarter. Utah's economy will also be influenced by monetary policies implemented by the Federal Reserve. The world economy, political hot spots, military activities and other obscure factors are additional influences that can potentially disrupt economic forecasts.

Utah has a favorable demographic trend, an accommodating business environment, a fiscally stable government, and the economic room to expand. Outside influences are the only potential pitfalls.

Economic growth of more than 4.0 percent is within the Utah economy's reach. June 2013's 3.0 percent growth was an increase of 37,000 jobs over the prior 12 months. An additional 17,000 jobs would push Utah over 4.0 percent

Figure 6: Percent Change in Utah Employment 1960 to 2013



Source: U.S. Bureau of Labor Statistics, QCEW; National Bureau of Economic Research
*Based on monthly over-the-year-change

employment growth. Figure 6 shows that growth over 4.0 percent has occurred numerous times in Utah's past, the most recent being just before the Great Recession. It is generally a short period of high growth — around one to two years; but it can be longer. High levels of in-migration often accompany this trend and help to prolong it. In-migration is currently not a noticeable contributor to Utah's economic growth. Yet without it, the state is growing at average. It wouldn't take much in-migration to give this growth a boost above average.

The second half of 2013 did not appear to foster accelerating employment growth. With the continuation of the federal government sequestration along with the federal government shutdown and uncertainties surrounding meeting federal debt obligations, these actions restrained the economy. But those restraints will eventually resolve and it is within Utah's economic possibility to have job growth move to 4.0 percent and higher in the latter portions of 2014. If the current growth continues into most of 2015, all it would take is a little help, or maybe we should say, non-hindrance from the U.S. economy.

One irony of a vibrant economy is the increase in job churning. A newspaper heading in this climate could read: "Economy Improves, Companies Lose Workers." When economies are growing and jobs are being created, the amount of movement in and out of existing jobs increases. When the economy stagnates, people tend to stay put, making do with their current job as there are fewer opportunities to replace it.

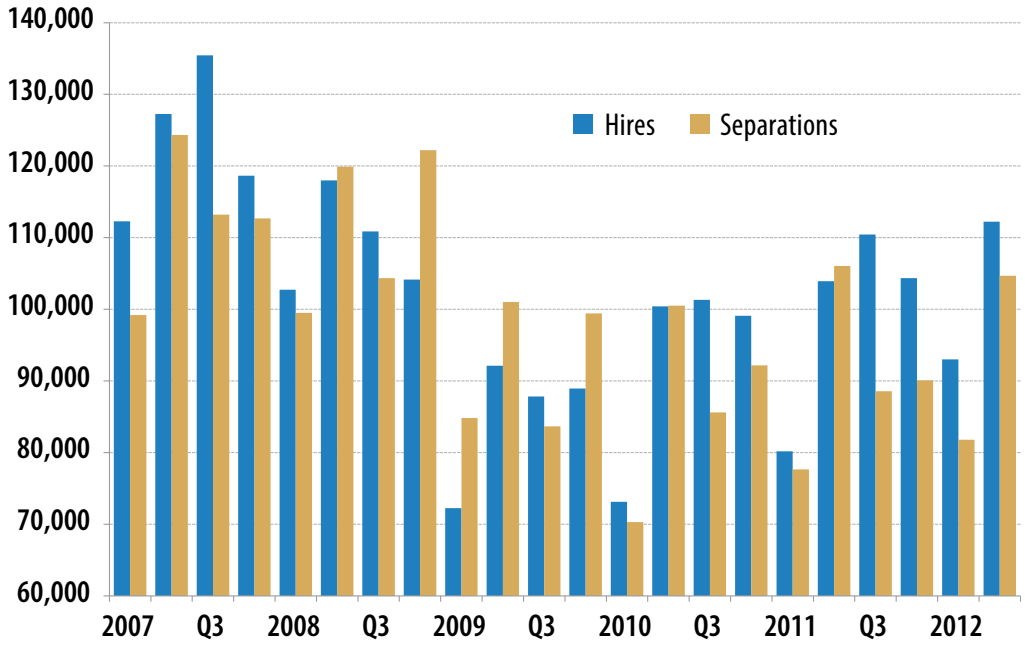
Before the Great Recession unfolded in late 2008, the amount of hiring and separations from jobs in Utah was brisk. There were roughly 110,000 hires or job separations each quarter. The volume is rarely equal as the hires tend to outpace separations in an expanding economy and vice versa, but there was a high volume of both during this time period (Figure 7).

When the Great Recession hit, the volume of churning slowed noticeably, falling to roughly 75,000—or by approximately one-third. Net jobs were being lost on net, not created, causing the workforce to stay in the jobs they were fortunate enough to have.

Churn volume remained low until the end of 2010 and then began to increase, rising to around 90,000 per quarter. This job-changing activity only measures churn in jobs where the employee stayed at least through an entire calendar quarter and does not represent the "flippant" job churning (less than three months) that is always a part of the economy. Ignoring flippant churn establishes stability within the hires and separations variables, and in turn reveals the underlying or fundamental nature of the job market.

The U.S. Census Bureau provides the source data, but this information is available only through the middle of 2012. The Utah job market's growth rates increased in late 2012 and through most of 2013, so the current churning is expected to be even higher into 2013. In an improving economy, fewer people feel compelled to stay in their current jobs because the increase in job opportunities offers the potential to find an improvement. In an ironic way, more job churning points to a more vibrant economy.

Figure 7: Utah Job Hires and Separations 2007 to 2012



Source: U.S. Census Bureau, LEHD program

*Only jobs with same employee for three months or more

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The Making of Occupational Projections

BY MELAUNI JENSEN, LMI ANALYST

Every state is required to produce projections by the Bureau of Labor Statistics (BLS), the source of national long-term industry and occupational projections. Every two years, the Department of Workforce Services (DWS) Economists offer long-term industry and occupational projections. The occupational projections discussed in this issue of Utah Insights reveal trends for growth or decline of workers by occupational groups and specific occupations. The ten-year period provides guidance for the public to make more informed decisions about their long-term goals. The projections contain valuable information about the likely future number of job openings and wages.

As you may know, industries represent businesses providing or producing the same products or services, while occupations describe work that requires certain tasks, duties or responsibilities. Occupations are coded using the Standard Occupational Coding (SOC) system that contains standardized and occupation-specific descriptors, requirements and worker attributes. This system is used for the entire nation and helps to better identify the occupation a worker may be looking to obtain. These are also grouped with similar occupations with comparable duties, called occupational groups. Approximately 5,000 employers receive the annual Occupational Employment Statistics (OES) survey from DWS in Utah, making it the largest and best wage and occupational survey in the state. This survey provides data on occupational staffing patterns that are established and applied or distributed for most industries, giving the economists the data they need to develop employment estimates for roughly 700 identified occupations and are prepared at a statewide level and for eight sub-state areas.

The first step in developing occupational projections is to generate industry projections using the Long-Term Industry Projections System (LTIP) provided by BLS. DWS Economists produce employment estimates for about 95 different industries in the state. After producing industry projections, economists then create the occupational projections by analyzing the results from the OES survey. In addition to the employment estimates from the OES survey, the MicroMatrix software system used by all states generates estimates of the number of annual average job openings expected to occur during the projections period. Growth occurs when positions are created, while replacement happens when workers leave an occupation therefore needing to be replaced. The education, work experience or job training generally required for the occupations are also included in the occupational projections to provide even more information. These are provided by BLS and contain information about the typical education and training requirements for an occupation.

DWS Economists have used time-tested economic theory along with economic tools to provide occupational projections and do not promise 100 percent accuracy. They are made with the understanding that major events can happen with policies, demographic trends or even natural disasters to tip the trends of the economy. By using these resources to "tell the future", it provides more consistent and valid projections.